Title (en)

Low power, high accuracy clock circuit and method for integrated circuits

Title (de)

Schaltungsanordnung und Verfahren zum Takten einer integrierten Schaltung mit hoher Genauigkeit und niedrigem Leistungsverbrauch

Title (fr)

Dispositif et méthode de cadencement d'un circuit intégré à haute précision et à faible consommation

Publication

EP 0865159 B1 20020410 (EN)

Application

EP 98301549 A 19980303

Priority

US 81601497 A 19970311

Abstract (en)

[origin: EP0865159A1] A clock circuit for providing an integrated circuit (100) with a high accuracy, crystal oscillator clock (12) which interfaces to an "off-chip" crystal (10) to provide a high accuracy clock signal while an internal, low power oscillator (24) provides a low power clock source. Either clock may be selected to drive a programmable processor (18) under program control. When high accuracy and stability are required, the crystal oscillator (12) may be chosen as the processor clock, and when lower power is desired, the low power oscillator (24) may be chosen as the processor clock while the high accuracy clock (12) is disabled. The high accuracy oscillator is used to clock a first timer circuit (A), while the low power oscillator is used to clock a second timer circuit (B). The second timer circuit output, in turn, is synchronized to the processor clock so that the programmable processor (18) can utilize the second timer circuit even when the processor clock is asynchronous to the second timer circuit. When the high accuracy oscillator (12) has been selected as the timing source to the programmable processor and to the first timer circuit, and the low power oscillator (24) is clocking the second timer circuit, the programmable processor under program control can effectively measure the frequency of the "on-chip" low power oscillator in terms of the frequency of the high accuracy clock. Accordingly, when the high accuracy clock is disabled, the programmable processor can use the low power oscillator more accurately. <IMAGE>

IPC 1-7

H03K 3/012; G06F 1/08

IPC 8 full level

G06F 1/04 (2006.01); **G06F 1/06** (2006.01); **G06F 1/08** (2006.01); **G06F 1/26** (2006.01)

CPC (source: EP KR US)

G06F 1/08 (2013.01 - EP KR US); **G06F 1/26** (2013.01 - EP US); **G06F 1/324** (2013.01 - EP US); Y02D 10/00 (2017.12 - EP US)

Cited by

CN110297800A; CN103733520A; KR20140040852A; FR2791853A1; GB2357671B; DE10015841B4; US6650189B1; US8447007B2; US8350600B2; WO2013009918A1; WO2006053202A1

Designated contracting state (EPC)

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DOCDB simple family (publication)

EP 0865159 A1 19980916; **EP 0865159 B1 20020410**; DE 69804704 D1 20020516; DE 69804704 T2 20021114; JP H10275023 A 19981013; KR 100322649 B1 20020620; KR 19980079958 A 19981125; TW 392334 B 20000601; US 5844435 A 19981201

DOCDB simple family (application)

EP 98301549 A 19980303; DE 69804704 T 19980303; JP 5717898 A 19980309; KR 19980007410 A 19980306; TW 87101706 A 19980209; US 81601497 A 19970311